SEQUENCE LISTING

<110>	Fletcher, Jonathan A. Kroll, Todd G.
	PAX8-PPARgamma NUCLEIC ACID MOLECULES POLYPEPTIDES AND USES THEREOF

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<151> 2000-08-14

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ctg Lev	g cag ı Glr	gto Val	Ile	aag Lys	g aag Lys	g acg Thr	gag Glu 760	ı Thr	gac Asp	ato Met	g agt Sei	ctt Lei 765	ı His	e eeg B Pro	g ctc Leu	2304

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Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln Leu Phe Ala Lys Leu Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr

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Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln Leu Phe Ala Lys Leu Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr

<210> 5 <211> 2625

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170

gge tee ace tac tee ate aat ggg ete etg gge ate get eag eet gge Gly Ser Thr Tyr Ser Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly 185

576

165

180

) >

agc Ser	gac Asp	aag Lys 195	agg Arg	aaa Lys	atg Met	gat Asp	gac Asp 200	agt Ser	gat Asp	cag Gln	gat Asp	agc Ser 205	tgc Cys	cga Arg	cta Leu	624
					agc Ser											672
					cag Gln 230											720
					cca Pro											768
					tac Tyr											816
					ctg Leu											864
					acc Thr											912
					gaa Glu 310											960
					agc Ser											1008
					ttc Phe											1056
					cag Gln											1104
					tac Tyr											1152
_		_			gcc Ala 390		_		_		Āla	_	_			1200
_	-				cca Pro					Asn			_			1248

gtg Val	gat Asp	ctc Leu	tcc Ser 420	gta Val	atg Met	gaa Glu	gac Asp	cac His 425	tcc Ser	cac His	tcc Ser	ttt Phe	gat Asp 430	atc Ile	aag Lys	1296
ccc Pro	ttc Phe	act Thr 435	act Thr	gtt Val	gac Asp	ttc Phe	tcc Ser 440	agc Ser	att Ile	tct Ser	act Thr	cca Pro 445	cat His	tac Tyr	gaa Glu	1344
	att Ile 450															1392
	ctg Leu															1440
tct Ser	cca Pro	cct Pro	tat Tyr	tat Tyr 485	tct Ser	gag Glu	aag Lys	act Thr	cag Gln 490	ctc Leu	tac Tyr	aat Asn	aag Lys	cct Pro 495	cat His	1488
	gag Glu															1536
	aaa Lys															1584
	ggt Gly 530															1632
	gat Asp															1680
	tgt Cys															1728
	agg Arg															1776
	atc Ile												Ala			1824
	gcc Ala 610						Tyr					Lys				1872
	acc Thr										Gly					1920

aaa Lys	tca Ser	cca Pro	ttc Phe	gtt Val 645	atc Ile	tat Tyr	gac Asp	atg Met	aat Asn 650	tcc Ser	tta Leu	atg Met	atg Met	gga Gly 655	gaa Glu	1968
gat Asp	aaa Lys	atc Ile	aag Lys 660	ttc Phe	aaa Lys	cac His	atc Ile	acc Thr 665	ccc Pro	ctg Leu	cag Gln	gag Glu	cag Gln 670	agc Ser	aaa Lys	2016
gag Glu	gtg Val	gcc Ala 675	atc Ile	cgc Arg	atc Ile	ttt Phe	cag Gln 680	Gly	tgc Cys	cag Gln	ttt Phe	cgc Arg 685	tcc Ser	gtg Val	gag Glu	2064
gct Ala	gtg Val 690	cag Gln	gag Glu	atc Ile	aca Thr	gag Glu 695	tat Tyr	gcc Ala	aaa Lys	agc Ser	att Ile 700	cct Pro	ggt Gly	ttt Phe	gta Val	2112
aat Asn 705	ctt Leu	gac Asp	ttg Leu	aac Asn	gac Asp 710	caa Gln	gta Val	act Thr	ctc Leu	ctc Leu 715	aaa Lys	tat Tyr	gga Gly	gtc Val	cac His 720	2160
gag Glu	atc Ile	att Ile	tac Tyr	aca Thr 725	atg Met	ctg Leu	gcc Ala	tcc Ser	ttg Leu 730	atg Met	aat Asn	aaa Lys	gat Asp	ggg Gly 735	gtt Val	2208
ctc Leu	ata Ile	tcc Ser	gag Glu 740	ggc	caa Gln	ggc Gly	ttc Phe	atg Met 745	aca Thr	agg Arg	gag Glu	ttt Phe	cta Leu 750	aag Lys	agc Ser	2256
ctg Leu	cga Arg	aag Lys 755	cct Pro	ttt Phe	ggt Gly	gac Asp	ttt Phe 760	atg Met	gag Glu	ccc Pro	aag Lys	ttt Phe 765	gag Glu	ttt Phe	gct Ala	2304
gtg Val	aag Lys 770	Phe	aat Asn	gca Ala	ctg Leu	gaa Glu 775	Leu	gat Asp	gac Asp	agc Ser	gac Asp 780	ttg Leu	gca Ala	ata Ile	ttt Phe	2352
Ile 785	Ala	Val	Ile	Ile	Leu 790	Ser	Gly	Asp	Arg	Pro 795	Gly	r Leu	Leu	Asn	800	2400
Lys	Pro	Ile	: Glu	. Asp 805	Ile	Gln	. Asp	Asn	Leu 810	. Leu	Glr	ı Ala	. Leu	. Glu 815		2448
cag Gln	ctg Leu	aag Lys	ctg Leu 820	. Asn	cac His	Pro	gag Glu	tcc Ser 825	Ser	cag Gln	ctg Lei	ttt i Phe	gcc Ala 830	Lys	ctg Leu	2496
Leu	Glr.	835	Met	Thr	` Asp	Lev	840	g Glr	n Ile	e Val	. Thi	6 Glu 845	His	Val	cag Gln	2544
cta Lei	a cto 1 Leu 85(ı Glr	g gtg n Val	ato Ile	: aag : Lys	aag Lys 855	Thi	g gag Glu	g aca ı Thr	gac Asp	ato Met 860	: Ser	ctt Leu	cac His	ccg Pro	2592

ctc ctg cag gag atc tac aag gac ttg tac tag Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr * 865 870

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Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser Gly Gln Gly Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr Glu Met Pro Phe Trp Pro Thr Asn Phe Gly Ile Ser Ser Val Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys Pro Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr Glu Asp Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arg Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly Val Leu Ile Ser Glu Gly Gln Gly Phe Met Thr Arg Glu Phe Leu Lys Ser Leu Arg Lys Pro Phe Gly Asp Phe Met Glu Pro Lys Phe Glu Phe Ala Val Lys Phe Asn Ala Leu Glu Leu Asp Asp Ser Asp Leu Ala Ile Phe Ile Ala Val Ile Ile Leu Ser Gly Asp Arg Pro Gly Leu Leu Asn Val Lys Pro Ile Glu Asp Ile Gln Asp Asn Leu Leu Gln Ala Leu Glu Leu

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805
                                   810
                                                        815
Gln Leu Lys Leu Asn His Pro Glu Ser Ser Gln Leu Phe Ala Lys Leu
                                825
            820
Leu Gln Lys Met Thr Asp Leu Arg Gln Ile Val Thr Glu His Val Gln
                            840
        835
Leu Leu Gln Val Ile Lys Lys Thr Glu Thr Asp Met Ser Leu His Pro
                        855
                                            860
Leu Leu Gln Glu Ile Tyr Lys Asp Leu Tyr
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   Thr Tyr Pro Val Val Ala Glu Met Thr Met Val Asp Thr
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                                        10
      <210> 8
      <211> 13
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Thr Tyr Pro Val Val Ala Glu Met Thr Met Val Asp Thr
                5
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      <222> (3)...(41)
      <400> 9
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                                                                       42
   Gly Gln Ala Leu Leu Ser Glu Met Thr Met Val Asp Thr
                                        10
      <210> 10
      <211> 13
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Gly Gln Ala Leu Leu Ser Glu Met Thr Met Val Asp Thr
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10
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                                                                       42
   Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr
                    5
      <210> 12
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Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr
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gaatteggeg atg eet eac aac tee ate aga tet gge eat gga ggg etg
                                                                       49
            Met Pro His Asn Ser Ile Arg Ser Gly His Gly Gly Leu
                                                                       97
aac cag ctg gga ggg gcc ttt gtg aat ggc aga cct ctg ccg gaa gtg
Asn Gln Leu Gly Gly Ala Phe Val Asn Gly Arg Pro Leu Pro Glu Val
gtc cgc cag cgc atc gta gac ctg gcc cac cag ggt gta agg ccc tgc
                                                                      145
Val Arg Gln Arg Ile Val Asp Leu Ala His Gln Gly Val Arg Pro Cys
gac atc tct cgc cag ctc cgc gtc agc cat ggt tgc gtc agc aag atc
                                                                      193
Asp Ile Ser Arg Gln Leu Arg Val Ser His Gly Cys Val Ser Lys Ile
                 50
                                                                       241
ctt ggc agg tac tac gag act ggc agc atc cgg cct gga gtg ata ggg
Leu Gly Arg Tyr Tyr Glu Thr Gly Ser Ile Arg Pro Gly Val Ile Gly
             65
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	tcc Ser															289
-	tac Tyr 95		_	_												337
	ctc Leu															385
-	tcc Ser															433
	cct Pro															481
_	ctg Leu			-		_	-			-				-		529
_	tcc Ser 175											_			-	577
_	cct Pro		_	_	_			_	-	_	_	_	_	_		625
_	cga Arg		_		-		_	_	_	-	_			_		673
	ctt Leu	_	_	_	-		_	_					_			721
_	cca Pro															769
	acc Thr 255															817
	ctg Leu															865
	cgc Arg															913

cac His				gcc Ala		-	_						-			961
-				tcc Ser				_							1	009
				Gly 333											1	057
				cag Gln		_		_	_				 _	_	1	105
atg Met				acg Thr 370	_									_	1	153
	_		_	tat Tyr				-		-					1	201
_	_			ggc Gly		_									1	249
_		_		cgc Arg					_	_	_	_			1.	297
				aca Thr											1	345
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<211> 450

<212> PRT

<213> Homo Sapiens

<400> 14

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 Pro
 His
 Asn
 Ser
 Ile
 Arg
 Ser
 Gly
 His
 Gly
 Gly
 Leu
 Asn
 Gln
 Leu

 Gly
 Ala
 Phe
 Val
 Asn
 Gly
 Arg
 Pro
 Leu
 Pro
 Glu
 Val
 Val
 Arg
 Gln

 Arg
 Ile
 Val
 Asp
 Leu
 Ala
 His
 Gln
 Gly
 Val
 Arg
 Pro
 Cys
 Asp
 Ile
 Ser

 Arg
 Gln
 Leu
 Arg
 Val
 Ser
 His
 Gly
 Cys
 Val
 Ser
 Leu
 Gly
 Arg

 Tyr
 Tyr
 Glu
 Thr
 Gly
 Ser
 Ile
 Arg
 Pro
 Gly
 Val
 Ile
 Gly
 Ser
 Lys

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70
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                              105
Ala Glu Gly Val Cys Asp Asn Asp Thr Val Pro Ser Val Ser Ser Ile
             120
       115
Asn Arg Ile Ile Arg Thr Lys Val Gln Gln Pro Phe Asn Leu Pro Met
                   135
Asp Ser Cys Val Ala Thr Lys Ser Leu Ser Pro Gly His Thr Leu Ile
                                      155
                   150
Pro Ser Ser Ala Val Thr Pro Pro Glu Ser Pro Gln Ser Asp Ser Leu
                                 170
              165
Gly Ser Thr Tyr Ser Ile Asn Gly Leu Leu Gly Ile Ala Gln Pro Gly
                             185
                                                 190
           180
Ser Asp Lys Arq Lys Met Asp Asp Ser Asp Gln Asp Ser Cys Arg Leu
       195 200
Ser Ile Asp Ser Gln Ser Ser Ser Gly Pro Arg Lys His Leu Arg
                       215
                                          220
Thr Asp Ala Phe Ser Gln His His Leu Glu Pro Leu Glu Cys Pro Phe
                   230
                                      235
Glu Arg Gln His Tyr Pro Glu Ala Tyr Ala Ser Pro Ser His Thr Lys
                                  250
               245
Gly Glu Gln Gly Leu Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp
                             265
Asp Gly Lys Ala Thr Leu Thr Pro Ser Asn Thr Pro Leu Gly Arg Asn
               280
                                             285
       275
Leu Ser Thr His Gln Thr Tyr Pro Val Val Ala Asp Pro His Ser Pro
                       295
Phe Ala Ile Lys Gln Glu Thr Pro Glu Val Ser Ser Ser Ser Thr
                                      315
                  310
Pro Ser Ser Leu Ser Ser Ser Ala Phe Leu Asp Leu Gln Gln Val Gly
               325
                                  330
Ser Gly Val Pro Pro Phe Asn Ala Phe Pro His Ala Ala Ser Val Tyr
                              345
Gly Gln Phe Thr Gly Gln Ala Leu Leu Ser Gly Arg Glu Met Val Gly
                           360
Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser Gly Gln Gly
                      375
                                         380
Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Gly Ser Glu Tyr
                  390
                                      395
Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu Ala
                                 410
               405
Trp Arg Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser
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His Leu
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ata tca caa gaa atg Pro Ile Asp Pro Glu 10		Phe Thr Asp Th		
acc aac ttt ggg atc Ile Ser Gln Glu Met 25				
tcc cac tcc ttt gat Thr Asn Phe Gly Ile 45				
att tot act cca cat Ser His Ser Phe Asp 60				
gtg gtt gca gat tac Ile Ser Thr Pro His 75				
gca atc aaa gtg gag Val Val Ala Asp Tyr 90			ln Glu Tyr Gln	
cag ctc tac aat aag Ala Ile Lys Val Glu 105				
att gaa tgt cgt gtc Gln Leu Tyr Asn Lys 125	Pro His Glu (
gtt cat gct tgt gaa Ile Glu Cys Arg Val 140	Cys Gly Asp 1			
ttg aag ctt atc tat Val His Ala Cys Glu 155				
aaa agt aga aat aaa Leu Lys Leu Ile Tyr 170	-		ys Arg Ile His	_

	atg tct Arg Asn		s Gln						_		_	_	738
	gag aag Met Ser		_	_		_	_				_	_	786
	gag tcc Glu Lys 220		_			_	_		_	_		_	834
	ata aag Glu Ser 235		_	_			_	_					882
_	gga aag Ile Lys		-					_			_	-	930
	tta atg Gly Lys		ır Asp				_	_					978
_	cag gag Leu Met					_		-			_		1026
	ttt cgc Gln Glu 300												1074
aaa agc													
Cys Gln	Phe Arg		-			_	_		_		_		1122
ctc ctc	Phe Arg	Ser Va	al Glu	Ala 320 gag	Val atc	Gln	Glu	Ile aca	Thr 325 atg	Glu ctg	Tyr	Ala tcc	1122
ctc ctc Lys Ser 330	Phe Arg 315 aaa tat	Ser Va	al Glu cc cac ne Val 335 gg gtt al His	Ala 320 gag Asn	Val atc Leu ata	Gln att Asp	Glu tac Leu gag	aca Asn 340	Thr 325 atg Asp	Glu ctg Gln ggc	Tyr gcc Val ttc	Ala tcc Thr	
ctc ctc Lys Ser 330 ttg atg Leu Leu 345 aca agg	Phe Arg 315 aaa tat Ile Pro	Ser Va	al Glu cc cac ne Val 335 gg gtt al His	Ala 320 gag Asn ctc Glu ctg	Val atc Leu ata Ile cga	Gln att Asp tcc Ile aag	tac Leu gag Tyr 355	aca Asn 340 ggc Thr	Thr 325 atg Asp caa Met	ctg Gln ggc Leu	Tyr gcc Val ttc Ala	Ala tcc Thr atg Ser 360 atg	1170
ctc ctc Lys Ser 330 ttg atg Leu Leu 345 aca agg Leu Met	Phe Arg 315 aaa tat Ile Pro aat aaa Lys Tyr gag ttt	gga gt Gly Ph gat gg Gly Va 35 cta aa Asp Gl 365	cc cac val 335 gg gtt al His 50 ag agc y Val	Ala 320 gag Asn ctc Glu ctg Leu	Val atc Leu ata Ile cga Ile aag	Gln att Asp tcc Ile aag Ser 370 ttc	Glu tac Leu gag Tyr 355 cct Glu aat	aca Asn 340 ggc Thr ttt Gly	Thr 325 atg Asp caa Met ggt Gln	ctg Gln ggc Leu gac Gly	Tyr gcc Val ttc Ala ttt Phe 375 tta	tcc Thr atg Ser 360 atg Met	1170 1218

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Asp			ttg Leu	_			_			_	_			_		1410
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Met Pro His Asn	
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Asn Gly Arg Pro Leu Pro Glu Val Val Arg Gln Arg Ile Val Asp Leu	
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Thr Asp Ala Phe Ser Gln His His Leu Glu Pro Leu Glu Cys Pro Phe Glu Arg Gln His Tyr Pro Glu Ala Tyr Ala Ser Pro Ser His Thr Lys Gly Glu Gln Gly Leu Tyr Pro Leu Pro Leu Leu Asn Ser Thr Leu Asp Asp Gly Lys Ala Thr Leu Thr Pro Ser Asn Thr Pro Leu Gly Arg Asn Leu Ser Thr His Gln Thr Tyr Pro Val Val Ala Gly Arg Glu Met Val Gly Pro Thr Leu Pro Gly Tyr Pro Pro His Ile Pro Thr Ser Gly Gln Gly Ser Tyr Ala Ser Ser Ala Ile Ala Gly Met Val Ala Glu Met Thr Met Val Asp Thr Glu Met Pro Phe Trp Pro Thr Asn Phe Gly Ile Ser Ser Val Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile Lys Pro Phe Thr Thr Val Asp Phe Ser Ser Ile Ser Thr Pro His Tyr Glu Asp Ile Pro Phe Thr Arg Thr Asp Pro Val Val Ala Asp Tyr Lys Tyr Asp Leu Lys Leu Gln Glu Tyr Gln Ser Ala Ile Lys Val Glu Pro Ala Ser Pro Pro Tyr Tyr Ser Glu Lys Thr Gln Leu Tyr Asn Lys Pro His Glu Glu Pro Ser Asn Ser Leu Met Ala Ile Glu Cys Arg Val Cys Gly Asp Lys Ala Ser Gly Phe His Tyr Gly Val His Ala Cys Glu Gly Cys Lys Gly Phe Phe Arg Arg Thr Ile Arg Leu Lys Leu Ile Tyr Asp Arg Cys Asp Leu Asn Cys Arg Ile His Lys Lys Ser Arg Asn Lys Cys Gln Tyr Cys Arq Phe Gln Lys Cys Leu Ala Val Gly Met Ser His Asn Ala Ile Arg Phe Gly Arg Met Pro Gln Ala Glu Lys Glu Lys Leu Leu Ala Glu Ile Ser Ser Asp Ile Asp Gln Leu Asn Pro Glu Ser Ala Asp Leu Arg Ala Leu Ala Lys His Leu Tyr Asp Ser Tyr Ile Lys Ser Phe Pro Leu Thr Lys Ala Lys Ala Arg Ala Ile Leu Thr Gly Lys Thr Thr Asp Lys Ser Pro Phe Val Ile Tyr Asp Met Asn Ser Leu Met Met Gly Glu Asp Lys Ile Lys Phe Lys His Ile Thr Pro Leu Gln Glu Gln Ser Lys Glu Val Ala Ile Arg Ile Phe Gln Gly Cys Gln Phe Arg Ser Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Ser Ile Pro Gly Phe Val Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly Val His Glu Ile Ile Tyr Thr Met Leu Ala Ser Leu Met Asn Lys Asp Gly

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Ser Val Asp Leu Ser Val Met Glu Asp His Ser His Ser Phe Asp Ile 20 25 30	
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gac cat ctg
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      <220>
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                                                                         60
                                                                        120
ctgtctgcaa acatatcaca agaanggcga gagatggtgg ggcccacgct gcccggatac
ccaccccaca tccccaccag cggacagggc agctatgcct cctctgccat cgcaggcatg
                                                                        180
gtggcaggaa gtgaatactc tggcaatgcc tatggccaca ccccctactc ctcctacagc
                                                                        240
                                                                        300
gaggcctggc gcttccccaa ctccagcttg ctgagttccc catattatta cagttccaca
                                                                        348
tcaaggccga gtgcaccgcc caccactgcc acggcctttg accatctg
      <210> 38
      <211> 246
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       <220>
       <223> n = A or T or C or G or other
       <400> 38
atgggtgaaa ctctgggaga ttctcctatt gacccagaaa gcgattcctt cactgataca
                                                                         60
 ctgtctgcaa acatatcaca agaangaagt gaatactctg gcaatgccta tggccacacc
                                                                        120
ccctactcct cctacagcga ggcctggcgc ttccccaact ccagcttgct gagttcccca
                                                                         180
 tattattaca gttccacatc aaggccgagt gcaccgccca ccactgccac ggcctttgac
                                                                         240
                                                                         246
 catctg
       <210> 39
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Tyr Ser Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr Ala
100 105 110

Phe Asp His Leu

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115
     <210> 41
      <211> 82
      <212> PRT
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      <220>
      <223> Xaa = any amino acid
      <400> 41
Met Gly Glu Thr Leu Gly Asp Ser Pro Ile Asp Pro Glu Ser Asp Ser
                                    10
                 5
Phe Thr Asp Thr Leu Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr
                                25
           20
Ser Gly Asn Ala Tyr Gly His Thr Pro Tyr Ser Ser Tyr Ser Glu Ala
                            40
Trp Arg Phe Pro Asn Ser Ser Leu Leu Ser Ser Pro Tyr Tyr Tyr Ser
                                            60
                       55
Ser Thr Ser Arg Pro Ser Ala Pro Pro Thr Thr Ala Thr Ala Phe Asp
                   70
                                        75
His Leu
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      <222> (1) ... (43)
      <400> 42
tet gea aac ata tea caa gaa nat eet cae tea eee tte gee a
                                                                       43
Ser Ala Asn Ile Ser Gln Glu Xaa Pro His Ser Pro Phe Ala
       <210> 43
       <211> 14
       <212> PRT
       <213> Homo Sapiens
       <220>
       <223> Xaa = any amino acid
       <400> 43
 Ser Ala Asn Ile Ser Gln Glu Xaa Pro His Ser Pro Phe Ala
       <210> 44
       <211> 43
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      <220>
     <223> n = A or T or C or G or other
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      <222> (1)...(43)
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Ser Ala Asn Ile Ser Gln Glu Xaa Arg Glu Met Val Gly Pro
                                      10
                 5
      <210> 45
      <211> 14
      <212> PRT
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      <223> Xaa = any amino acid
      <400> 45
Ser Ala Asn Ile Ser Gln Glu Xaa Arg Glu Met Val Gly Pro
                                    10
      <210> 46
      <211> 43
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      <213> Homo Sapiens
      <223> n = a or T or C or G or other
      <221> CDS
      <222> (1) ... (43)
      <400> 46
tct gca aac ata tca caa gaa nga agt gaa tac tct ggc aat g
                                                                        43
Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr Ser Gly Asn
      <210> 47
      <211> 14
      <212> PRT
      <213> Homo Sapiens
      <220>
       <223> Xaa = any amino acid
       <400> 47
Ser Ala Asn Ile Ser Gln Glu Xaa Ser Glu Tyr Ser Gly Asn
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